CHLORAMBEN

Chloramben is a federal hazardous air pollutant and was identified as a toxic air contaminant in April 1993 under AB 2728.

CAS Registry Number: 133-90-4

Molecular Formula: $C_7H_5Cl_2NO_2$

Chloramben is a colorless, crystalline solid that is odorless. It is soluble in water, ethanol, alkali, ether, acetone, benzene, chloroform, and isopropanol. It is insoluble in carbon tetrachloride (HSDB, 1991).

Physical Properties of Chloramben

Synonyms: 3-amino-2,5-dichlorobenzoic acid; Amiben; chlorambene; Vegiben; 2,5-dichloro-3- aminobenzoic acid

Molecular Weight:	206.02
Melting Point:	200 - 201 °C
Vapor Pressure:	7×10^{-3} mm Hg at 100 °C
Water Solubility:	700 mg at 25 °C
Conversion Factor:	1 ppm = 8.43 mg/m^3

(HSDB, 1991; Merck, 1989; U.S. EPA, 1994a)

SOURCES AND EMISSIONS

A. Sources

Chloramben was registered for use as a pesticide however, as of March 22, 1988, it is no longer registered for pesticidal use in California (DPR, 1996).

B. Emissions

No emissions of chloramben from stationary sources in California were reported, based on data obtained from the Air Toxics "Hot Spots" Program (AB 2588) (ARB, 1997b).

C. Natural Occurrence

No information about the natural occurrence of chloramben was found in the readily-available literature.

AMBIENT CONCENTRATIONS

No Air Resources Board data exist for ambient measurements of chloramben.

INDOOR SOURCES AND CONCENTRATIONS

No information about the indoor sources and concentrations of chloramben was found in the readily-available literature.

ATMOSPHERIC PERSISTENCE

No information about the atmospheric persistence of chloramben was found in the readily-available literature.

AB 2588 RISK ASSESSMENT INFORMATION

Chloramben emissions are not reported from stationary sources in California under the AB 2588 program. It is also not listed in the California Air Pollution Control Officers Association Air Toxics "Hot Spots" Program Revised 1992 Risk Assessment Guidelines as having health values (cancer or non-cancer) for use in risk assessments (CAPCOA, 1993).

HEALTH EFFECTS

Probable routes of human exposure to chloramben are inhalation and dermal contact (HSDB, 1991).

Non-Cancer: Chloramben causes mild to moderate skin, eye and respiratory irritation (HSDB, 1994). No information is available on the chronic effects of chloramben in humans. Animal studies have reported effects on the liver from chronic oral exposure to chloramben (U.S. EPA, 1994a).

The United States Environmental Protection Agency (U.S. EPA) is currently reviewing the Reference Concentration for chloramben. The U.S. EPA has established an oral Reference Dose (RfD) of 0.015 milligrams per kilogram per day for chloramben based on hepatocyte degeneration in mice. The U.S. EPA estimates that consumption of this dose or less, over a lifetime, would not likely result in the occurrence of chronic, non-cancer effects (U.S. EPA, 1994a).

No information is available on adverse developmental or reproductive effects of chloramben in humans or animals (U.S. EPA, 1994a).

Cancer: No information is available on the carcinogenic effects of chloramben in humans. Animal studies have reported that oral exposure to chloramben caused liver tumors in mice, but not in rats (U.S. EPA, 1994a). The International Agency for Research on Cancer and the U.S. EPA have not classified chloramben for carcinogenicity (IARC, 1987a; U.S. EPA, 1994a).